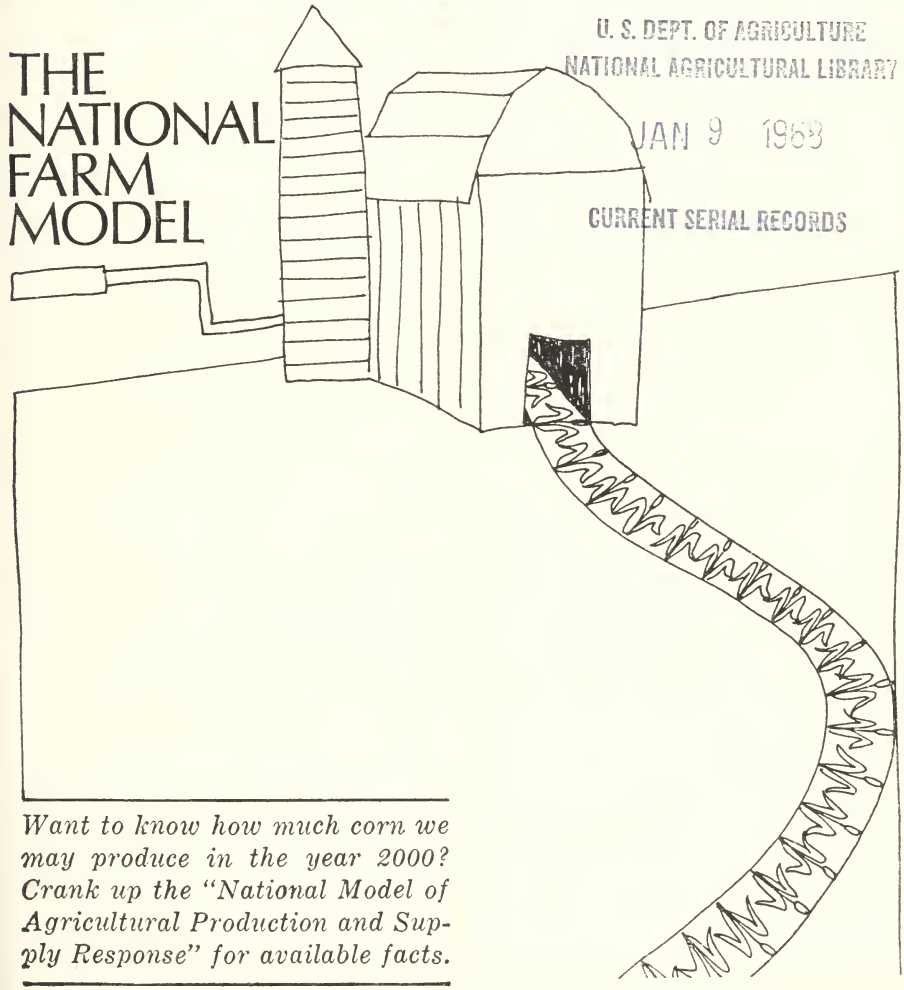
Agricultural Situation

NOVEMBER 1967

Vol. 51, No. 11

Statistical Reporting Service
U.S. Department of Agriculture

THE NATIONAL FARM MODEL



Want to know how much corn we may produce in the year 2000? Crank up the "National Model of Agricultural Production and Supply Response" for available facts.

280-768°—67

National Farm Model Aids Decision Makers

Imagine the United States as 95 farming situations accounting for 87 percent of the cotton produced in the United States, 90 percent of the corn and soybeans, 81 percent of the wheat and grain sorghum and 69 percent of the barley. Include other commodities, such as livestock, on a limited scale where they are related to these crops.

This, roughly speaking, is the "National Model of Agricultural Production Adjustment and Supply Response."

The overall purpose of the National Model—initiated in 1964 and still in the experimental stage—is to provide a systematic mathematical framework for estimating changes in acreage, production, resource use (and implied farm income changes) associated with a variety of factors.

These factors include prices paid and received by farmers, resource supplies, technological changes, and Government programs. The model will be continually refined and kept up to date to reflect the changes most likely to occur in the United States as a whole as well as in different geographic regions and farming situations.

By incorporating data from as many as 95 producing regions into a single programing unit with up to 4,000 equations, the National Model will help farm economists examine and answer—before the fact—such questions as:

—What will a change in support price do to soybean production?

—How will minimum wage legislation affect farm costs? Farm incomes?

—How much extra in wheat acreage and what prices must farmers receive to meet specified increases in export demand for wheat?

—What effect will proposed cotton programs have on acreage in the Cotton Belt? On employment? On incomes?

The answers to such questions will help in the formation of effective farm policies and programs.

The National Model, like the individual farmer, regards each year as a different problem. The individual farmer cannot influence the prices he pays and receives and he cannot know in advance how much his farm will produce. Neither can the National Model.

BEST OR LIKELY?

But both do know what happened last year and in the years before and can act accordingly. The National Model, in fact, by making use of data from preceding years, can provide estimates of the expected yield and price of a given commodity under conditions of maximum profitability.

In the real world, however, such conditions rarely if ever exist. It is highly unlikely that any farmer will get the theoretically maximum profit from his farm even when he makes every effort to do so. He won't know exactly what the most profitable alternatives are when he is planning his crops. And even if he did, he probably couldn't make all the necessary production changes at the same time.

Frequently long-run income considerations, or a personal preference for one crop over another, turn the farmer's choice away from his most profitable course of action.

The National Model takes this into account by relating year-to-year changes in decision making to current decisions.

For example, if farmers increased their cotton acreage an average of 10 percent some years and decreased it an average of 8 percent in others, this information can be added in the National Model.

The result is then applied to current cotton acreage and from it the figures on the lower and upper bounds of cotton production for the next year can be derived.

Though the individual farmer cannot influence the price he pays for production goods or receives for his crops, his actions in conjunction with other farmers do have a profound influence on the price.

To illustrate, when he learns the planting intentions of others, the individual farmer is likely to change his plans only to find that everyone else is doing the same. As a result, a whole new production and price picture is created.

The National Model can take this into account, too, along with restraints on land, water and other resources and crop allotments under farm programs.

THE BIG PICTURE

Its greatest potential appears to lie in its ability to evaluate relative effects of changing conditions on the total crop production picture.

A policymaker might need to know what the relative decrease in production and incomes would be if wages were raised. He may want to determine how lower or higher prices for wheat support would affect production.

The National Model not only will provide answers under normal conditions; it will provide a range of answers above and below the norm. Instead of showing production based only on normal yields, for example, it would also present estimates based on extremely favorable and unfavorable weather conditions.

It is not, however, designed to explain changes in farm size, specialization, or the role of investment in farm output. Nor does it deal with nonagricultural variables of the economy except as they impinge on agriculture.

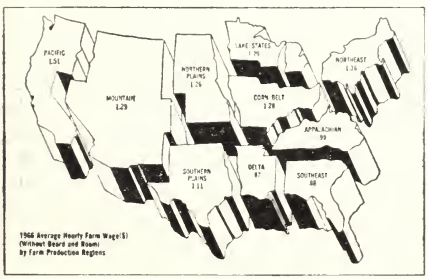
A short-run test has been completed to determine how well the model would have predicted or explained the 1960–64 changes in acreage and production, looking ahead just one year at a time.

How well did the National Model do on this short-run test? Preliminary findings indicate that model estimates are close to actual response for some commodities in some areas, not so close in others.

The average percentage deviation of total acreage estimates ranged from only 1 percent for cotton to about 16 percent for grain sorghum.

So far it appears that, with improvements and refinements, the National Model and its successors can become highly relevant tools of policy research.

Economic Research Service



FARM MINIMUM WAGES: INCREASES COMING

When the new Minimum Wage for agriculture went into effect on February 1, 1967, it created a wage floor of $1.00 per hour on farms using 500 man-days or more of hired labor in a peak quarter during the previous year.

This directly affected only an estimated 390,000 of a possible 1.4 million hired workers and about 33,000 farms—actually less than 1 percent of all U.S. farms.

Yet indirectly it may tend to raise wage rates for many other farmworkers.

Next February, the Minimum Wage will go to $1.15 per hour and in 1969 will be increased again, to $1.30 per hour. It is expected that about one-third of the farmworkers covered will be migratory, working outside their home counties.

For the farm operator, the payment of higher wages should help attract more dependable, skillful, and productive workers. However, faced with higher wage bills, there may be a tendency to speed the trend to more mechanization on farms.

YOUR FARM AFFECTED?

Indications are that the Minimum Wage Law will probably not cover any farms with annual sales less than $5,000; only a few farms with sales between $5,000 and $9,999; about 5 percent of farms with sales between $10,000 and $19,999; about 25 percent of those with sales between $20,000 and $39,999 and close to 50 percent of those with sales of $40,000 or more. Probably all farms with sales of $100,000 or more will be directly affected by the legislation.

Large commercial farms hire most of the labor used on farms and already are making the adjustments necessary to meet Minimum Wage coverage.

For the farmworker, the Minimum Wage will result in higher wages per hour on covered farms, except where wages are already above the minimum. With relatively full employment and rising nonfarm wage levels, higher wages will tend to spread to other farms as well, if the other farms are to compete for farm labor.

RICE:

U.S. Now Leads All Exporters

Rice is the world's largest food crop and staff of life for more than a billion people, mostly Asians. Asian farmers alone produce enough rice to fill 9 out of 10 of the world's rice bowls.

In the past marketing year, free world rice output was expected to surpass the poor showing of 1965–66, although it was well below the 1964–65 bumper crop. The estimate was for a free world crop totaling some 163 million metric tons.

Demand for rice has been outpacing supply for about a decade, even in countries that traditionally export rice. Population growth, poor weather in parts of Asia, and erratic production in the war area of Southeast Asia have led to shifts in the rice trade.

The result, in recent years, has been a slackening of trade for traditional Asian rice exporters and an intensifying of exports for the United States. This change in rice trading has vaulted the United States into top place among world rice exporters, ahead of Thailand—traditionally the leading exporter of rice.

PRODUCTION PARADOXES

If the U.S. leads the world in rice exports, it is down the line to tenth place in free world production of rice. Thailand, second in rice exports, ranks fifth in production. Most recent data point to some 3.9 million metric tons of total U.S. rice output for 1966/67.

India is the largest free world producer of rice, estimated at 47 million tons for 1966/67. In second place, Pakistan produced some 16 million tons, although that figure may well go higher when later data are available. Japan and Indonesia are close together—almost interchangeable according to latest data—for third and fourth place in free world rice output.

More rice is grown in mainland China than in any other single country.

Although current statistics for Chinese agriculture and trade are not reliable, the U.N.'s Food and Agriculture Organization estimates for 1966/67 that rice output on mainland China was about 88 million tons. Mainland Chinese rice exports are thought to be about 700,000 to 800,000 tons—about the best since the disastrous "great leap forward" a decade ago. Before 1958 these exports were about a million tons.

RICE TYPES

The two important kinds of rice are long grain and round grain. Medium grain rice is a recent innovation. It is an American product that has gained widespread appeal.

Each major country grows some rice of outstanding quality, unique to its area. Pakistan is famous for its long grain varieties begmi, permal, and basmati. India also produces some basmati. Thailand's specialty is glutinous rice, popular in parts of Asia.

UPS AND DOWNS

Customers for U.S. rice are global. But the list of leading importers of U.S. rice has zigzagged during the past decade. Few have held the same rankings from year to year. For example, in 1964 India was our top customer for rice at 325,000 tons, but last year it wasn't even among the top 10. This year India has bounced back to sixth place. And Vietnam, a major rice exporter before 1964, last year became the chief U.S. customer for rice at 687,000 tons.

Other leading customers of U.S. rice in 1966/67 were Japan, Indonesia, Republic of South Africa, Saudi Arabia, the United Kingdom, West Germany, Nansei and Nanpo Islands (a U.N. trust territory), and Ghana.

The decade ahead promises further gains for both U.S. and world rice production and consumption. U.S. rice production this year likely will be more than triple what it was a decade earlier.

Rice generally is gaining importance both as a staple and convenience food in secondary rice-consuming areas such as the United States and Europe. Also, a steady rise in use continues in the traditional rice-consuming countries. In fact, rice is about the only starchy food seeming not to fall behind as economies rise and diets improve.

BIG CROPS RESTOCK FEEDBINS, TAKE PUNCH OUT OF PRICES

Put feed on your plentiful list for 1968. Total feed supplies on hand for the 1967/68 marketing season begun in October are about even with the large supplies we had 2 years ago.

Bigger quantities of nearly all types of feed will bolster livestock rations this fall. Along with the large feed grain crop and a good showing for hay, there are prospects of bigger supplies of soybean meal. Generally lower feed prices, increased consumption, and a bigger feed grain carryover at the end of the year are likely consequences during the marketing year.

UNUSUAL CARRYOVER

On October 1, the new corn crop was estimated at 4,717 million bushels, over 600 million more than 1966. Include the carryover of old-crop corn, and the total supply will be a little over 5.5 billion bushels. The carryover this year is of unusual interest, in two ways:

—At 817 million bushels, the estimated October 1 carryover was 23 million less than the 1966 carryover and the smallest since 1953.

—An unprecedented amount of the carryover was privately owned or "free," amounting to 443 million bushels.

With 2 million more acres harvested, the sorghum crop will be another record setter. Despite a decrease in yield of 4 bushels per acre, the crop is forecast at 789 million bushels, versus last year's 720 million.

Acreage of oats for harvest was down to 91 percent of last year, but the crop is estimated at 806 million bushels, slightly larger than 1966. And at 4 percent below last year, the 373-million bushel barley crop was the result of about 1 million fewer acres, but slightly higher yields.

PRICE POSSIBILITIES

In the 1966/67 marketing season just ended, feed grain prices averaged 3 percent above the year before and were the highest in more than a decade. This year, the crop is a little more than the prospective total requirements and prices probably will average below those of 1966/67. However, the smaller Government stocks likely will make feed grain prices more responsive to changes in demand than in the early 1960's, when large reserves were carried over.

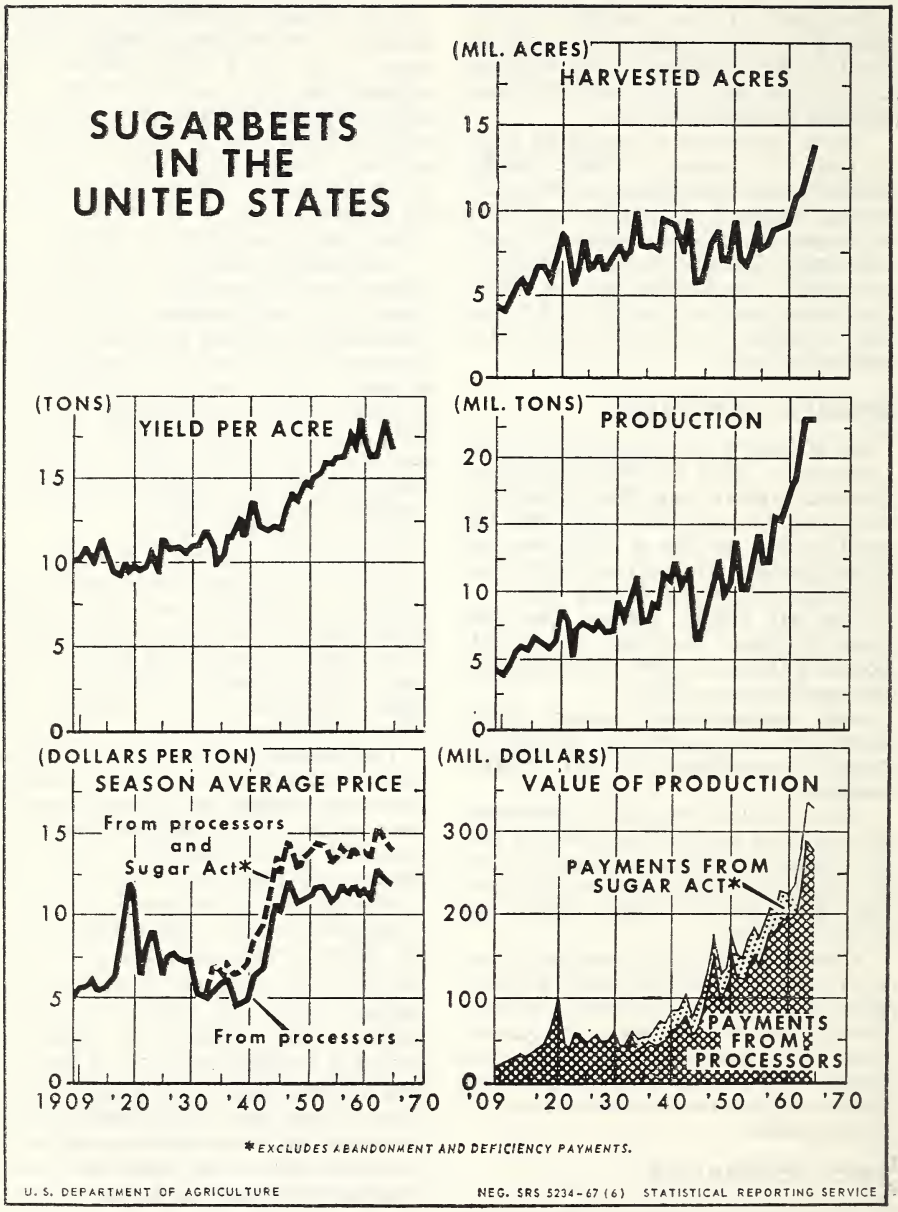
The record wheat crop brought this grain into a favorable position for feeding this past summer. The wheat-corn price ratio has generally favored increased wheat feeding in recent years, although there has been considerable variation in the relationship. In July 1965, the prices of 100 pounds of wheat and corn were equal. The next year, wheat was 63 cents higher per hundredweight, but in July 1967, wheat was only 12 cents higher than corn.

Though hay acreage for harvest is off by 1 million acres, the crop is estimated at 125 million tons, up 4 percent from last year. In each of the past 2 years, nearly one-fifth of the crop has been sold by farmers, with much of the sales occurring in the Pacific and Mountain States.

The average hay price in mid-September, at $21 per ton, was 7 percent less than in 1966. Prices were below a year earlier in all regions. Compared with the 1961–65 average they were lower in the Northwest, about the same in the South, and higher in the West.

Byproduct feeds also contribute to the plentiful feed supply picture. The soybean crop, forecast at just under 1 billion bushels on October 1, should provide ample supplies of beans for crushing. Soybean meal prices this fall and winter probably will average below those of last year. Cottonseed meal is the exception, with supplies expected to be below year-earlier levels and more than a third below the 5-year average.

Economic Research Service


SUGARBEETS IN THE UNITED STATES
(MIL. ACRES)
HARVESTED ACRES
15
10
5
0
(TONS)
YIELD PER ACRE
15
10
5
0
(MIL. TONS)
PRODUCTION
20
15
10
5
0
(DOLLARS PER TON)
SEASON AVERAGE PRICE
From processors and Sugar Act*
From processors
15
10
5
0
1909 '20 '30 '40 '50 '60 '70
(MIL. DOLLARS)
VALUE OF PRODUCTION
PAYMENTS FROM SUGAR ACT*
PAYMENTS FROM PROCESSORS
300
200
100
0
'09 '20 '30 '40 '50 '60 '70
*EXCLUDES ABANDONMENT AND DEFICIENCY PAYMENTS.
U. S. DEPARTMENT OF AGRICULTURE
NEG. SRS 5234-67 (6) STATISTICAL REPORTING SERVICE

Wool Gathering: No Picnic for Producers

Time: the recent past. Place: the wool market in New Mexico. Action: wool buyers at random following shearing crews from ranch to ranch.

There, the buyers stand around all day and watch the shearing. From time to time a buyer breaks away from the group and corners a rancher in the barn or behind the ranch house to make an offer for the wool.

After several such sessions, the rancher accepts the highest offer.

Buyers follow the shearing crew to the next ranch, as the curtain falls.

Nowadays, it's a far different scene in New Mexico. Over 80 percent of New Mexico's wool clip is assembled at five warehouses—accounting for the vast majority of the wool assembled on consignment or commission.

The system has evolved over the past 20 years because both the buyers and growers have wanted it.

The know-how and the professional marketing techniques of the warehouse managers save both buyers and producers time and money.

Some of the benefits:

To ranchers. The warehouses are large enough to offer growers services such as core-testing and current market information.

They have installed baling equipment to reduce transportation costs. Managers represent the growers in negotiations for lower freight rates.

The volume of wool justifies having specialists analyze the market to seek top prices, and appraise the customers' clips, working with them to improve the quality.

Instead of one or two buyers out at the ranch, there are 10 to 15 buyers competing for the wool at one time.

To buyers. Negotiating with ranchers scattered over wide areas, plus trying to get to individual ranches before the competition, was time-consuming and expensive. The system also resulted in large duplications of effort and expense. At a shearing a buyer might see about 30,000 pounds of wool in a day. Now in one location the buyer can see from 2 to 5 million pounds in a day.

With large volumes available for inspection, the buyer is surer of getting exactly what he wants.

Thus, the warehouse system helps the producers get a better market and provides a more convenient source of supply to buyers. It also helps to reduce costs on all sides.

Wool marketing is not as satisfactory everywhere as it is in New Mexico. Specialists in the Economic Research Service working with industry groups have received information from nearly 3,000 producers throughout the United States on how the wool marketing system is working, how they are marketing their wool, and what they think of local marketing conditions.

The producers said they market through local dealers who come out to the ranch at shearing time, or through warehouses, or through local pools.

A local pool is an informal independent organization that meets once or twice a year to dispose of the local wool clips. It provides a somewhat organized market.

The pools seldom have adequate storage facilities, although pools in the West are better in this respect than others are.

The general practice is to borrow or rent space for 2 or 3 days—just enough time to assemble the wool and load it on trucks or flatcars.

The producers complained mostly about local dealers, but pools and warehouses came in for their share of criticism. They noted the poor competitive structure and the high marketing costs.

Although there were numerous complaints about low prices, most producers said that they could not accurately determine the market value of wool.

Wool growers indicated that quality evaluation and identification are what the wool market needs. Without them, chances of misunderstanding multiply.

MIGRANT FARMWORKERS FOLLOW MAINSTREAMS

America's migratory workers are similar in many respects to most other paid farmworkers. A young labor force, half the migratory workers are less than 25 years old, about 70 percent are male, and 80 percent are white.

What makes them different from the rest of the hired farm labor force? For one thing they don't work within commuting distance of their homes.

Of the 3.1 million persons who did farmwork for wages in 1965, some 466,000, or 15 percent, were migrants. Since World War II the number of migrants has remained relatively stable—somewhere around 400,000.

The big change during 1965 was the great drop in the number of foreign workers—from 200,000 in 1964 to 36,000 in 1965. This was due to the expiration of Public Law 78, which permitted the large-scale importation of Mexican farmworkers for employment on American farms.

Over half of the migratory work force consisted of teenagers and housewives. About 30 percent of the migrants were employed at farmwork for most of the year.

One-fifth of them traveled 1,000 miles or more during the year. The bulk traveled in three main streams.

One stream flows north and west out of Texas. It begins in the spring and covers most of the North Central, Mountain and Pacific States before the season ends around December. The workers in this stream harvest fruits, vegetables, sugarbeets, and cotton.

Another stream starts in southern California and goes northward through the Pacific States.

Many workers in these two streams are Spanish-Americans traveling with their families.

A third stream draws from Florida and other Southern States to harvest the winter citrus and vegetable crops. The migrants work their way northward during the spring and summer as far as New England. Negroes make up a large portion of this stream.

One-third of the migrants crossed State lines to get work in 1965; the rest crossed county lines but remained within their own State. Although some migratory farm work was done in all States in 1965, half the man-hours used were in Texas, Michigan, California, and Florida.

Partly because of the brief span of the work year, migrants employed exclusively at farmwork earned about $1,000 during the year. Those who also had nonfarm jobs earned about $1,700, of which $500 came from farmwork.

Economic Research Service

Fewer Hired Hands

Although this is the age of the machine, much farmwork is still done by hand. There were about 2.8 million persons in the hired working force in 1966. Nevertheless, this was a drop of 11.7 percent from the 1965 figure.

There were 1.6 million laborers who worked more than 25 days last year—230,000 fewer than in 1965—and about 1.3 million who worked less than 25 days, down 200,000 from the previous year.

A few percentages tell much about hired farmworkers:

—74 percent were men and boys.

—73 percent were white.

—32 percent were young people 14 to 17 years of age.

—47 percent lived in the South, 26 percent in the West, 19 percent in the North Central States, and 8 percent in the Northeast.

The median age was 24. On the average, farmworkers earned about $8.55 a day in cash wages in 1966. Working an average of 85 days, this means they earned $731. These earnings refer only to cash wages paid; fringe benefits such as housing or room and board furnished without charge by the employer are not counted.

Workers in the Northeast averaged the highest daily wage, $11.80; those in the South received the lowest, $6.55 per day.

Based on Information Available November 1, 1967

MILK PRICES UP

For January–October 1967, the price of wholesale milk averaged $4.96 per hundredweight, 23 cents or 5 percent above a year earlier. For the entire year, prices farmers receive for milk sold to plants and dealers in 1967 are expected to average about $5.00 per hundredweight, compared with $4.81 in 1966. The previous high was $4.88 in 1948.

Fourth quarter prices farmers receive are advancing about 5 percent from third quarter prices, below the usual 9-percent gain. This year, the elimination of seasonal Class I price differentials in Federal order markets has lessened the seasonal movement of prices. However, other major causes of seasonal price increases in fall months, which continued to operate, are the increased proportion of milk supplies going into the higher-valued bottling uses and the seasonally higher milkfat content.

DAIRY IMPORTS DOWN

The new dairy import quotas, proclaimed by the President on June 30, dropped July and August dairy imports to about 0.1 billion pounds milk equivalent, from about 0.7 billion pounds a year earlier. These figures do not include quantities of butterfat-sugar mixtures and some cheeses which were in transit on June 30.

Dairy product imports in the first half of 1967, amounting to 2.2 billion pounds milk equivalent, were up 60 percent from a year earlier. But, because of the new quotas, imports for the year as a whole likely will total only a little above the 2.8 billion pounds milk equivalent entered in 1966. The total figure will depend on how completely exporting countries fill their quotas.

Juices Were Big Ades To Citrus Growers in Florida Freeze Five Years Ago. Remember?

Last season was the year of the orange in the era of the bottomless juice can. Citrus production in all forms in 1966–67 hit record highs, recovering fully from the freeze which struck near harvest-time 5 years ago.

Despite the disaster to Florida groves in 1962 and their slow recovery, one of the major citrus items, orange juice, suffered the least.

Here are some reasons why: Although fruits for fresh market must be clean and unblemished, juices can be pressed from blemished fruit. Also favoring the flow of juice was the wide acceptance of blends—juices, ades, and punches—combining citrus with other fruits.

Nevertheless, the 1962 freeze was a blow to the industry. The December 1962 forecast, just before the freeze, was for 164,000 boxes of oranges. The final harvest dropped that hope by a third, down to 107,600 boxes.

Ripening fruit suffered major losses, and future production was hampered by tree damage.

Although damage to older trees was relatively light, leaf damage was severe and growth of young trees retarded. More than three-fourths of all orange trees suffered some leaf or wood damage, and more than a third were severely damaged. To further complicate matters, continued cool weather slowed new growth that season.

Early and Midseason varieties were damaged the most; about one-fifth dropped fruit prematurely. Least hit were the Valencias. All told, the 1962 freeze was the worst thing to hit Florida citrus in more than a decade.

Results of the freeze were predictable. Short of fresh citrus, marketers lacked good quality fruit. The result was higher prices all the way up the line. With oranges scarce, juice processors adjusted accordingly.

First, the industry called out the reserves: Stocks of orange juice on hand in single strength and in concentrates were mobilized. Then the blends and mixed fruits were brought to the fore.

Blends were almost unknown less than a decade earlier, although a lucrative market for them was up and coming.

Frozen concentrates, of single fruits or of blends, have been important pluses for processors. Not the least is that most of them are immune to the vagaries of seasonal crop and fruit sizes. This permits processing of prematurely sized fruit. Concentrates also permit marked economy in distribution.

Behind the ready acceptance of blends in concentrated form is a history of promotion of juices by industry. The public has long been accustomed to a variety of fruit juices. So, when the short citrus crop in 1962 was teamed with other fruit and processed into juices and concentrates, the combinations were palatable and the transition to blends easily made by consumers.

One of the earliest promotion programs for citrus was conducted by the Sunkist cooperative in California. Begun during the World War I era, the promotion underlined the convenience and nutrition of all fruit juices generally, and of orange juice especially.

Processed berries appeared on the market during World War I. Canned grapefruit and tomato juices followed in the 1920's. Within another decade orange, lemon, and pineapple juice added to the stream.

New processes added new forms of fruit juice—frozen concentrates of ades and punches, for example. New marketing techniques helped even more. Examples: Distribution under one brand for products of otherwise unrelated fruit companies and distribution of fruits from different sections of the country.

Last year's big production of all citrus fruit lowered consumer prices and permitted processors to increase solids in orange juice concentrates. The current crop, although considerably below last season's record crop, is expected to be well above the previous year and above the recent average.

BEE, KEEPER, FARMER—THEY NEED EACH OTHER

Clover, cabbage, cotton, carrots, peaches, peppers, and asparagus—they illustrate the variety of crops pollinated with the help of insects.

Some crops are dependent on insects—mainly bees—for pollination. Others are mostly self-pollinating. But even these crops are improved in set, vigor, and yield when bees are active during the flowering stage.

Until recently it has been easy to take bees' presence for granted, since there are native bees in most parts of the country. Yet the home of these insects is frequently destroyed when we clear, cultivate, or spray the soil.

HARDWORKING HONEY BEES

Bringing hives of honey bees into the field when crops are in flower is one solution where native bees are insufficient. In the proper density, honey bees are efficient and thorough pollinators. The result of their work, in terms of better yields, ordinarily pays for the cost of bee rental many times over.

So, farmers and beekeepers alike benefit by promoting a healthy beekeeping industry in the U.S.

A decline in the number of bee colonies in the last 20 years has already made fewer bees available for pollination. And beekeepers are wrestling with several problems that could lead to a further decline in colony numbers if not effectively dealt with.

The greatest problem today is insecticide damage. In one way the problem is greater for farmers than it is for beekeepers. Beekeepers are naturally reluctant to rent their hives where a risk of insecticide killing is present. When a farmer is refused pollination service, the actual loss to his crop due to poor pollination may far exceed the potential loss of a few beehives by the beekeeper. As crop growers are made aware of the insecticide problem, it may eventually be solved.

HONEY FOR MONEY

Adequate income is another problem faced by the beekeeper today. The U.S. average wholesale price of honey has remained around 17 cents per pound for the last 20 years. Meanwhile, production costs have risen.

This cost-price squeeze has resulted in a steady drop in bee colony numbers. In 1947, there were 6 million colonies in the U.S.; today there are only 4.8 million. If the trend continues, it could create serious problems for crop producers who depend on honey bee pollination.

A heavy concentration of bees is necessary for adequate pollination. But a large number of bees in a field or orchard may be too dense to produce a good crop of honey for the beekeeper. One solution is for farmers to compensate beekeepers for potential losses in honey.

Despite these problems, honeybees are well-suited to meeting our future pollination requirements.

The art of raising honey bees is known by thousands of American apiculturists. Automation in hive handling and scientific methods of coping with bee diseases are well developed in the industry.

What seems to be needed the most is organization and promotion to bring farmers and beekeepers in closer touch.

PUT IT ON PAPER

In California, cooperation between beekeepers and crop growers has paid off. In that important seed crop and fruit State, you're more likely to see hives on the back of a truck in summer than on their owner's property.

Beekeepers may migrate over the entire State, and service 3 or 4 blossoming crops during the year.

To obtain the pollination service needed, growers of these crops use a middleman, called a pollination coordinator. He gets interested farmers and beemen together, and a contract is drawn up to cover the entire operation. This assures a fair deal to both the grower and beekeeper.

AUTUMN NUT BOWL: If you play that old shell game this season, chances are the nut you use will be a pecan, an almond, or a walnut.

You may end up with a filbert in hand, but it isn't likely.

These are the rules of the game, if the odds follow the proportions of tree nut production made up by the major domestic nuts.

This year's crop of the four major tree nuts is running about 271,300 tons. That puts it a shade below 1966 output but somewhat higher than average.

Pecans should make up some 38 percent of this year's output. Almonds would be another 30 percent, walnuts 28 percent, and filberts 4 percent.

The Christmas nut bowl should be well filled by the harvest of pecans this fall. In fact, the pecan groves alone are helping to maintain supplies of holiday nuts, since other harvests will probably be smaller.

TEA TOTALING: Total tea consumption in the U.S. during 1966 amounted to 133 million pounds—or 0.7 pound per person. Back in 1961, our total tea intake was only 110 million pounds—or 0.6 pound per person.

The increased use of instant tea is one reason for the 17-percent gain in total tea consumption since 1961. Instant teas represented only 8 percent of the market in 1961, but made up 26 percent in 1966.

The share of the market supplied by tea bags slipped from 59 percent to 54 percent during 1961–66, while loose or packaged tea's share dropped from 33 to 20 percent.

LEANING TOWARD FAT: Use of fats and oils in the U.S. last year averaged out to a record 48.6 pounds per person. It amounted to 9.4 billion pounds in total.

FARM FOOD NOTES

We ate more shortening, more margarine and more cooking and salad oils during the year. In fact, we ate enough fat and oil in this form to more than offset smaller portions of butter and lard.

The per capita score was 15.9 pounds of shortening, up nearly 2 pounds from 1965; 14.1 pounds of cooking and salad oil, an increase of almost 1 pound; and 10.5 pounds of margarine, up about a half a pound.

Consumption of butter dropped 0.7 pound in 1966 and lard consumption dropped 0.8 pound.

A 104-POUND STEAK: Beef eaters have never had it so good. And most often it's Choice.

That's the grade of nearly 50 percent of all the beef now coming off the Nation's farms and feedlots.

While the beef industry has doubled its total output in the past 20 years, it has tripled its production of Choice beef.

The beef we ate last year—most of it in the top three grades—averaged out to a record, close to 104 pounds per person. This was a large portion of our 170-pound per capita helping of all red meats.

MILK DELIVERY: Prospects for home delivery of milk all over the country have been given a new lease on life by new returnable plastic half-gallon containers, used by milkmen in the Pacific Northwest.

Experience indicates that the lightweight containers are cheaper than previous containers used and are virtually indestructible.

The bottles are typical of the new look in home delivery of milk. Determined efforts to cut costs of delivery are making it possible for the dairies to price their milk competitively with the local supermarkets.

Already a hit in the Northwest, the returnable plastic bottles seem certain to stimulate home delivery of milk throughout the country in the next few years.

HEAT AND EAT: New convenience foods represent a substantial portion of the rising retail value of food.

Recent research indicates that Mrs. Consumer's demands for convenience foods have increased two to three times faster than the demand for the basic food itself from the farmer.

Result: A long-term decline in the farmer's share of the food dollar, an upward trend in the cost of transporting, processing, packaging, storing and otherwise servicing the food from farm to consumer.

In 1966 these costs amounted to $55 billion—6 percent more than in 1965.

FERTILIZER LIGHTENS THE PRICE LOAD

An editorial cartoon shows a farmer crushed by burdensome prices: Home, car, appliances, and a moneybag of taxes and interest. Piled on these are his farm prices: the new silo, a tractor, sacks of seed, and laborers. But one important item on this load hasn't contributed its share to the price pressures of the last decade. What is it?

The item is fertilizer, and the prices farmers pay for it definitely run against the other rising price trends. For example, farmers report that they're paying 10 percent more for all production items and 80 to 160 percent more for taxes and interest than they paid in 1957–59. But fertilizer's average price has actually remained stable in the past 8 or 10 years. In many instances the price paid has gone down.

What makes fertilizer a less expensive production item? Competition for the booming trade in fertilizer may be the most important factor. There are dozens of new plants in competition, making and mixing fertilizers at lower cost.

The competitive angle has even pared transportation costs, significant in determining retail fertilizer prices. Freight charges which fertilizer dealers, and in turn consumers, must pay have been trimmed by what's called freight equalization. Here's how equalization might work in an imaginary case:

A fertilizer dealer near Chicago normally buys his fertilizer from the nearest plant, say in St. Louis. Then a new plant is built in Peoria. Product prices are the same in both cities, but freight charges are much lower from Peoria, the nearer city to Chicago.

To retain his Chicago outlet, the St. Louis producer "equalizes" freight on Peoria—the buyer will need to pay the equivalent of freight from only the nearer point, even though the material is being shipped from more distant St. Louis.

Nevertheless, fertilizers vary in price from one area to another. For example, the farm price of anhydrous ammonia this fall has ranged from $95 per ton in Arizona to $190 in Montana.

Prices are related to the cost of producing raw materials. Here's what's happened recently to the cost of primary nutrients:

Nitrogen. Anhydrous ammonia has become a lot cheaper, as evidenced by lower prices paid for fertilizers with a relatively high nitrogen content. A number of giant new plants are synthesizing ammonia at low cost.

Phosphorus. Production of most phosphatic fertilizers includes the combining of phosphate rock with sulfuric acid at some step in the process. While phosphate rock prices have remained fairly level, price hikes for sulfur over the last 2 years have pushed up phosphorus fertilizer prices.

Potassium. Potash could become less expensive in the near future. In fact, prices declined only recently, as large volumes of potash from vast new Canadian deposits began to flow into the U.S.

The heavy farm demand for fertilizer in season creates an annual rush, and prices go up in response. In the fall, after the growing season is over, prices generally decline. Fertilizer prices are also likely to increase when a good planting season spurs demand; decrease—as they did this year—when poor weather limits applications.

FERTILIOWA

Farmers in Iowa have been using more fertilizer, and using it faster than the rest of the U.S.

They put a record 1,750,000 tons on their fields last year. This was an increase of 150 percent over 1960, compared with a rise of only 38 percent nationally.

Not surprisingly, corn gets most of the plant nutrients. About 90 percent of Iowa's corn acres are now fertilized, in contrast to 50 percent in 1959.

There's a definite trend, too, to use of more single-component fertilizers—such as anhydrous ammonia and superphosphates—and less mixed-analysis fertilizers.

A farmer needed less than 5 bushels of corn to pay for 100 pounds of anhydrous ammonia last year. In 1960, it took 7½ bushels.

FERTILIZER INDUSTRY GROWTH HAS BEEN FAST, DIVERSIFIED

Few industries have expanded as rapidly or changed as much as agriculture in the past 30 years, unless it has been the fertilizer industry over the past 20 years. Not only has the volume of fertilizer increased, but the quality has improved, partly because of changes and growth in agriculture. And, farm use of fertilizers has often outpaced growth in the fertilizer industry generally.

The increasing need for fertilizer results partly from the wide-scale use of modern crop production practices—continuous cropping, without rotation or fallow, leaving the soil deficient in important growth elements.

Products of a highly complex chemistry, fertilizer industry outputs are marketed as solids, liquids, or gases; in bulk or in bags; by truck or water; to farmers and nonfarmers.

Fertilizer sales for farm use in 1966 just topped $1.8 billion—increasing some 64 percent during the 1956–66 decade. At the same time gross tonnages of fertilizer used went up nearly 56 percent, and primary plant nutrients more than doubled in volume.

The complex processes of fertilizer production in the 48 States in 1965–66 required mixing of more than 3,000 grades of fertilizer, although only 155 of them were in quantities of 10,000 tons or more. Some 57 percent of the total tonnage used was in mixtures, while the balance consisted of separate primary, secondary, and micronutrients applied directly to the soil.

Production of primary elements—nitrogen, phosphorus, and potassium—is based on their specific characteristics. Nitrogen forms ammonia when combined with hydrogen. Most of the hydrogen is extracted from natural gas. Most phosphorus is strip-mined, principally from Florida land-pebble deposits. Potassium is mined, mostly in New Mexico from deposits of potash.

Direct synthesis of ammonia was originally developed by Germany in 1913. American scientists experimented along the same lines at about the same time. In 1940 there were only 7 U.S. firms producing a total of 475,000 tons of ammonia. But between 1940 and 1966 the expansion was rapid. And, by 1966 some 70 firms were producing a combined total of more than 11 million tons, a 22-fold increase.

At first, fertilizer marketing followed the classic path of distribution: Raw-materials producers to fertilizer mixers to dealers to consumers. But, the evolving complex of modern U.S. agriculture has wrought intricate changes. Many links in the classical chain of marketing have vanished. Now, only about one-fourth of the fertilizer reaches the consumer through traditional channels.

Demand is highly seasonal and transportation is costly. To counter this squeeze, producers of primary nutrients distribute their products through warehouses, spotted across the country. Spotwarehousing in market areas enables the industry to deliver quickly where and when needed and to keep plants operating despite seasonal highs and lows in demand. Also, this reduces dependence on barge and rail transit at the height of the season. Storage costs thus shift to the suppliers of raw materials instead of the mixers of fertilizers.

Hang On, Orange

One fruit or vegetable after another has fallen before the automated onslaught of mechanical harvesters. Yet many crops still remain unpicked by inhuman hands. Take the case of the orange.

Attempts to harvest citrus with mechanized shakers have failed in the past because the fruit clings tenaciously to the tree, even when it is fully ripe. A long list of chemicals sprayed on the fruit to loosen it also made leaves and young fruit drop.

Now USDA researchers at Orlando, Fla., have discovered that the application of ascorbic acid (vitamin C) causes only mature oranges to let go. As an additional benefit for citrus eaters, oranges which have been treated contain more vitamin C after picking.

Though promising, the treatment is still being tested and hasn't been approved for use by growers.

Agricultural Research Service

SAM STAT SAYS "Check My Data" A brief roundup

■ **All Crops: The indicated crop production index for 1967 jumped to 117 by October, 5 points higher than last year.** ■ **Lighter feeder cattle are more numerous this fall. On October 1, there were 2 percent more cattle and calves on feed than a year ago; included were 13 percent more animals weighing less than 700 pounds, 3 percent fewer in heavier weight classes. Fed cattle prices this fall are expected to average moderately above July–September, when Choice steers at Chicago were about $27 per hundredweight.** ■ **Orange blossoms: Orange production, excluding California Valencias, is expected to be 29 percent less than last year, but 17 percent above average.** ■ **The 1967 honey crop is forecast at 219 million pounds, 11 percent less than 1966 and 13 below the 1961–65 average.**

In This Issue

Editor: Ben Blankenship

Cigarette Tips: Output, Smoking Increase

U.S. cigarette smoking is expected to be a near record this year, estimated at 4,295 cigarettes per person (18 years and over).

This year's total output of cigarettes may be the highest on record—about 13 billion above last year and 23 billion above the previous year.

The continuing rise in total use of cigarettes results largely from an increasing number of persons of smoking age, high consumer incomes, and heavier use by the armed forces.

Although the lion's share of production—about 550 billion cigarettes—will curl up in smoke puffed by U.S. smokers, foreign smokers will use an estimated 24.5 billion U.S. cigarettes. Exports this year would then top 1966 by more than a billion cigarettes.

Less and less tobacco has been used per 1,000 cigarettes for a decade, since filter tip cigarettes have gained favor. Some 28 percent of U.S. cigarette output was filter tipped in 1956, compared with 68 percent in 1966.

Except for the recent advent of 100 millimeter lengths—super king size—most filters have had shorter - than - regular length tobacco columns.

Other factors in the decline of tobacco per 1,000 cigarettes have been the increasing use by manufacturers of processed stems, reconstituted sheet, and other efficiencies.

There have been increases recently in retail prices of cigarettes in some States. These result from the increase in State tax rates for cigarettes. The Federal levy amounts to 8 cents a pack.

All States except North Carolina levy some tax on cigarettes.

The Agricultural Situation is sent free to crop, livestock, and price reporters in connection with their reporting work.

The Agricultural Situation is a monthly publication of the Statistical Reporting Service, United States Department of Agriculture, Washington, D.C. 20250. The printing of this publication has been approved by the Bureau of the Budget (March 12, 1964). Single copy 5 cents, subscription price 50 cents a year, foreign $1, payable in check or money order to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

UNITED STATES
DEPARTMENT OF AGRICULTURE
STATISTICAL REPORTING SERVICE
WASHINGTON, D.C. 20250

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE

U.S. GOVERNMENT PRINTING OFFICE: 1987